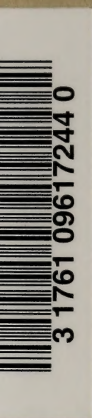


amph.
con.
L.

The University of Chicago



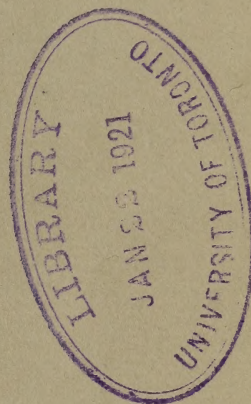
A FUNCTIONAL APPROACH TO SOCIAL-ECONOMIC DATA

A DISSERTATION

SUBMITTED TO THE FACULTY
OF THE GRADUATE SCHOOL OF ARTS AND LITERATURE
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

DEPARTMENT OF POLITICAL ECONOMY

BY
LEVERETT SAMUEL LYON



Private Edition, Distributed By
THE UNIVERSITY OF CHICAGO LIBRARIES
CHICAGO, ILLINOIS

Preprinted from
THE JOURNAL OF POLITICAL ECONOMY, Vol. XXVIII, No. 7, July, 1920

The University of Chicago

A FUNCTIONAL APPROACH TO SOCIAL-ECONOMIC DATA

A DISSERTATION

SUBMITTED TO THE FACULTY
OF THE GRADUATE SCHOOL OF ARTS AND LITERATURE
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

DEPARTMENT OF POLITICAL ECONOMY

BY

LEVERETT SAMUEL LYON

Private Edition, Distributed By
THE UNIVERSITY OF CHICAGO LIBRARIES
CHICAGO, ILLINOIS

Preprinted from
THE JOURNAL OF POLITICAL ECONOMY, Vol. XXVIII, No. 7, July, 1920

THE JOURNAL OF POLITICAL ECONOMY

VOLUME 28

July 1920

NUMBER 7

A FUNCTIONAL APPROACH TO SOCIAL- ECONOMIC DATA

The conception of social life as an organic process has frequently invited the method of approach and the point of view in social studies that have long been used in the study of other organic processes. Recent years have seen in an increasing degree expressions of a functional viewpoint in social studies. The sociologists and political scientists speak of the functional point of view and discuss institutions in functional terms. "Psychologists have hitherto devoted the larger part of their energy to investigating the structure of the mind. Of late, however, there has been manifest a disposition to deal more fully with its functional and genetic phases."¹ In economics we see such titles as "Marketing Functions and Mercantile Organization,"² and "The Function of Produce Exchanges."³ Elaborate organizations of economic material in which a functional viewpoint is evident have appeared. W. H. Hamilton has organized economic data around the problems

¹ James Rowland Angell, *Psychology*, Preface, p. iii.

² See article by this title, L. D. H. Weld, *American Economic Review*, VII, No. 2, p. 306.

³ See, for example, "Cotton Exchanges and Their Economic Functions," by Arthur Richmond Marsh, also similar treatment of produce and mercantile exchanges, *Annals*, XXXVIII, 571.

which are most pressing. The functions of institutions are discussed in relation to these problems.¹ L. C. Marshall has organized economic phenomena into a structure polarizing the institutions about the "outstanding aspects" of society.²

No doubt there is as yet too little of any form of functional exposition in economics, and this paper is not designed to level criticism at what has been done, excepting in so far as that is inevitable in proposing a certain new plan and organization of functional approach. If we examine such economic writing as attempts more or less definitely a functional approach, we find, broadly speaking, two quite distinct types. One of these might be characterized "the immediate" and the other "the fundamental." Each one of these types, as it has appeared, has served very useful purposes. Each, however, as it has appeared, has very definite limitations. It is to indicate some of these limitations that this paper is in part purposed. An additional and more substantial part of the undertaking, however, is to suggest for exposition of the social-economic process a plan of functional approach and a method of organization which it is believed is an advance, at least for purposes of contemporary instruction.

The "immediate type" of functional exposition.—The "immediate type" of functional exposition can best be characterized by the fact that it stops with the more or less immediate function. We speak, for example, of the functions of banks as being deposit, discount, and issue.³ True, but we may, as the banker often does, understand just what these are and how each is accomplished and remain quite innocent of the tremendous social significance and responsibility of lenders and of these banking operations. The explanation does not push through and tie the institution or phenomenon described into the whole organization of society. It is essentially fragmentary. It is as though we had expressed the significance of steam in modern life when we have said, "It moves pistons." We may declare to students that the

¹ Walton Hale Hamilton, *Current Economic Problems*.

² Leon Carroll Marshall, *Readings in Industrial Society*.

³ Compare H. G. Moulton, "Commercial Banking and Capital Formation," *Journal of Political Economy*, XXVI, 484.

function of market news is to give the business man information about his market and that the function of advertising is to aid him in influencing buyers. But to stop with this fragmentary explanation is to imply that there is something ultimate and vital about the marketing processes themselves. It is failing to show that marketing—meaning by that term the whole process by which managers find buyers and transport goods to them at a profit—is only one phase of specialized production. More, it is failing to show that exchange production itself is only one possible method of carrying on production.

But the fragmentary view of economic process is not the only weakness of this somewhat superficial functional exposition. A second deficiency is its lack of proportion. Social data viewed in immediate perspective have no relativity. A house, a monument, and a boulder must look much alike to the insect whose vision is limited to a few inches; so with warehouses, credit, capital, middlemen, competition, money, bonds, labor, the stock exchange, and transportation to the student who is not shown organic relations in perspective. Some difference in the structure of these mechanisms may appear, but they are usually so narrowly viewed in the exposition dealing with their functions that one must seem almost as important and vital to society as the other. In the student's mind all are, at the best, in a jumbled fashion performing operations in that rather vague undertaking known as production. They are helping to "satisfy human wants."¹ But the relative significance does not appear; the nature of the interdependence—even if the interdependence itself is suggested—of social institutions is not developed. There is offered by those who use this "immediate function" little to suggest that some functions may be viewed as almost, if not quite, vital to organized social life, while others are merely transitory, evolving methods in temporary use in the genetic

¹ Probably no teacher of economics has missed receiving this phrase as an answer when attempting to get students to state the functions of an institution. Just how and through what agencies has not always been shown the students. Professor James H. Tufts has told the writer for quotation that in teaching philosophy and psychology the same difficulty is present, relationships in a respectable perspective being so hard to establish that he actually taboos certain general words, such as "experience," which the student uses as an always sufficient explanation of "how he knows anything."

process. "Marketing," "financial organization," "private enterprise," "risk-bearing," in the sense of carrying the risks of a modern business enterprise, and "social control," in the sense of governmental interference, are clearly examples of mere temporary methods of accomplishing certain results. These cannot for a moment be considered as vital social functions. Organic social life was in process long before these methods were employed.¹ It will doubtless continue in process long after these methods have gone into the limbus with the stone ax, the patriarchy, and the clan—all good methods, perhaps, in their time. They are methods of carrying on tasks that can really be classified as vital social functions. Other methods, it would probably be safe to say lesser methods, are used to make these methods play their part.

In short, the type of functional treatment of economic data that typically has concerned itself with the immediate functions has limitations and weakness for analysis and exposition if in purpose the study is concerned with the deeper phases of economic process. If we do not press beyond immediate functions, the organic significance of social mechanisms is unexploited and the student gains neither the basis for social judgment nor the basis for practical activity which comes with greater intellectual perspective.

The more "fundamental" functional approach.—A more "fundamental" type of functional approach may avoid the limitations that have been discussed in the preceding paragraphs. Before discussing such examples of this type, however, as it may be desirable to take up, or presenting a definite proposal, it may be well to illustrate this more fundamental form with examples from some of the physical sciences.

The method of the more fundamental functional approach is a method frequently used by the student of other organic processes—the biologist, the physiologist, and the psychologist. Some of the methods of all are worth noticing, as each has suggestions for method in presenting social-science data.

¹ There is no implication of course that these were consciously adopted. Such a notion would be as baseless as a suggestion that man in his organic development consciously adopted a heart as a method of stirring up his circulation or that he consciously abandoned his tail.

Of these scientists, those who are more successful in attempting to expound the organic process of individual life do so by outlining certain functions.¹ The biologist attempts an analysis that goes to basic terms. He shows that certain tasks or functions must be performed or the life-process ceases. Verworn says definitely: "... the elementary vital phenomena belong to every cell, whether it be from a tissue of the higher animals, the lower animals, the plants, or from a free-living, independent unicellular organism. Every one of these cells exhibits in its individual form general vital phenomena."² He adds later: "Every cell, wherever it is, performs all the elementary functions of life. Without being nourished, without respiring, and without excreting, the muscle-cell can execute its movements no more than can the amoeba."³ Loeb also makes it clear that the performance of certain functions constitutes the life-process:

The essential difference between living and non-living matter consists, then, in this: the living cell synthesizes its own complicated specific material from indifferent or non-specific simple compounds of the surrounding medium, while the crystal simply adds the molecules found in its supersaturated solution. This synthetic power of transforming small "building stones" into the complicated compounds specific for each organism is the "secret of life," or rather, one of the secrets of life.⁴

¹ William H. Howell's *A Textbook of Physiology* is largely an illustration of this method. It should be noted that this is stated as the method used in exposition. This is not an assertion that these scientists assume certain functions a priori. Innumerable researches in anatomy, chemistry, and kindred subjects give the data from which to induce the generalizations. These researches also compel him to reform and patch his generalizations. J. S. Haldane, in *Mechanism, Life, and Personality*, expresses this for the biologist. He says: "When we examine the process of knowledge itself we find that it is a progressive defining of our experience in terms of fundamental conceptions or categories: also a gradual passing from lower, more abstract or indefinite conceptions to higher, more concrete or definite ones. This is the course of all scientific investigation. It is only with infinite travail and pains that our experience gradually defines itself in terms of higher and more definite conceptions. A living organism is not given to us complete in thought all at once; it only gradually reveals itself more and more definitely in the course of long and arduous biological investigation" (p. 98).

² Max Verworn, *General Physiology—An Outline of the Science of Life*, p. 51.

³ *Ibid.* Verworn's book was published in 1899. His use of the word "vital" must not cause him to be confused with the vitalists, such as Galen, Harvey, or Haller.

⁴ Jacques Loeb, *The Organism as a Whole, from a Physicochemical Viewpoint*, p. 23.

Later Loeb states:

The constant synthesis, then, of specific material from simple compounds of a non-specific character is the chief feature by which living matter differs from non-living matter. With this character is correlated another one, namely, when the mass of a cell reaches a certain limit the cell divides.¹

The method of the physiologist is as useful as any for the student of the social sciences. Though the biologist may find an ultimate category necessary, the physiologist apparently finds a less final list of vital functions best adapted to explaining the life of the human organism.² If detailed investigations give assurance that feeding, respiring, and excreting are vital to life, the method is to treat these as vital phenomena under which and in relation to which and to each other other phenomena can be studied. This makes possible a structure and a system in a wholly scientific and evolutionary sense.

In fact, it is not difficult to analyze into their primary constituents the complex occupations of our present life and to recognize that its diversity is produced by various combinations of a few elementary phenomena, such as nutrition, respiration, growth, reproduction, movement, and the production of heat. If life be thus conceived as a sum of certain simple phenomena, the task of physiology is to determine, investigate, and explain the latter.³

The biologist or physiologist in following this method makes no assertion that these functions are not overlapping, that they are mutually exclusive. On the contrary, he asserts that they are interdependent. But he does assert, or at least implies, in his approach that there are certain life-activities that are fundamental or are sufficiently fundamental, as his science is now understood, to justify grouping them as vital functions and grouping under them other sub-functions as the methods which further the fundamental ones.

Now this analysis, this method of approach, accomplishes in great measure for the expositor of individual organic process results which the expositor of social organic process, certainly in its economic phases, has not been able to attain. The physiologist

¹ Jacques Loeb, *The Organism as a Whole, from a Physicochemical Viewpoint*, p. 29.

² William H. Howell, *A Textbook of Physiology*, and William Maddock Bayliss, *Principles of General Physiology*, are standard works that in general follow such a plan.

³ Max Verworn, *General Physiology*, p. 3.

in dealing with his data can indicate both organic significance and at the same time something of relativity. An illustration will aid. Once it becomes clear that the taking in of food is a vital function, other processes that aid the function fall more readily into position. If their relation to the vital functions can be shown, the organic significance of stomach and intestinal digestion and the secretion of the salivary glands is obvious. So with other aids to nutrition. Yet no one is left a chance of confusing the importance of stomach and intestinal digestion with that of the salivary glands. By this approach through the basic functions the relative significance of the two is made reasonably clear. So with circulation. If this is viewed as a "vital" function in man, the work of the heart and that of the heart valves in the human organism appear in the light of their significance to the life-process and in reasonable perspective and interdependence as regards themselves.¹

The psychologist uses a similar plan in explaining the process of mind.² He may think of consciousness as consisting of intellectualizing, feeling, and willing, but for the purposes of exposition he presents these in such semi-primary activities as attention, sensing, perceiving, memorizing, imagining, etc.³ Of doing these things consciousness consists. These may then be examined as to how they are done and as to their effects on one another—their methods, interdependence, and relations.

Now this same method may be used for the social sciences. There is not the slightest suggestion, however, that the vital functions of individual life should be compared in any literal way to those of social process.⁴ The essence of the functional approach

¹ See for example Bayliss, *General Physiology*, chap. xxiii, "The Circulation of the Blood," or Howell, *A Textbook of Physiology*, chap. vii, "The Physiology of Digestion and Secretion."

² Neither physiologist nor psychologist, of course, attempts to explain the phenomena in which he is interested as apart from the whole life-process. See for example Angell, *Psychology*, pp. 7-8, and J. S. Haldane, *Mechanism, Life, and Personality*, Lecture IV.

³ See Angell, *Psychology*, Table of Contents, especially chaps. iv to xiii.

⁴ See Herbert Spencer, *Principles of Sociology*, Vol. I, Part II, especially chaps. iv to xii.

proposed is this: organize or polarize our multitudinous facts concerning organic social process to determine certain "basic" or "vital" social functions or processes. Organize around or under these basic functions the various operations or methods which society (in great measure unconsciously, of course) uses to carry on these basic functions.¹ *The approach advocated is based on the idea that the facts, activities, and occupations of daily life are combinations of interdependent phenomena directed toward the performance of a few interdependent tasks or functions which are vital to the continuance of social process.* It is well recognized that systems are dangerous and that the letter killeth. But systems are helpful.² Especially in economic-social study do we need systematization of facts into structural forms that will aid in showing relationships, interdependence, and the deeper functions of social structures.

The "orthodox" functional approach in economics.—When in an earlier paragraph reference was made to a type of "fundamental" functional treatment of economic material there was in mind chiefly the "orthodox" organization. Such an organization, once one thinks of it in that way, appears to be a functional approach, and it is beyond doubt in "fundamental" terms, as that phrase is here used. It seems fair, however, to charge against the orthodox organization, as it has been presented, certain limitations.

¹ It is not proposed to do this *a priori*. It could be done profitably only synthetically—only after a long inductive study, a careful examination and analysis of social structure and function—probably in the order stated. There is, however, a great mass of data at hand. The proposal is for a new systematization of these data in terms of function, interdependence, and relation.

² Max Verworn, *General Physiology*, p. 10. Verworn's defense of Galen is, in the field of another organic study, an excellent illustration of the need of systems. He says: "Along with general recognition of his immortal service, Galen has often been reproached with the charge that he was not content with collecting physiological facts, making observations, and devising experiments, but that he felt strongly the necessity of arranging his collected material into a complete and comprehensive system of physiology—nothing can be more unjust than this reproach. If Galen had been satisfied with ascertaining disconnected physiological facts, physiology and with it all medicine would not have been advanced one step farther than Aristotle had already brought them. Galen's greatest importance lies in the union of scraps of physiological knowledge into a coherent system. Isolated observations obtain value only in connection with other facts, and only a survey of the relations of facts makes possible further systematic progress." See also Mill, *On Comte*, p. 82.

First of all, while the method may have been, in the mind of its users, a functional approach, that fact has not been so objectified as to impress itself upon all readers. It has not been so clearly and positively put as to keep the functional idea clearly before the average student. A second pedagogical weakness lies in the orthodox organization. The functions, if as such "production," "consumption," "distribution," and "exchange" are to be considered, are more of the basic or vital type indicated in the discussion of biology than of the halfway fundamental. This is in itself no weakness. It is in fact desirable. But these functions are remote from the detailed phenomena discussed—so remote that there is no easy way for the mind to pass from the specific structure under examination to the basic function which the structure aids in performing. There is great need of intellectual stepping-stones from the particular to the general and back again. These ordinarily in economic treatises are lacking. Thus in the organization of texts in physiology the mind is carried from a structural detail, like the salivary glands, by means of a sub-function such as digestion, to the really basic interest of nutrition. The orthodox method not only fails to use any such device, but apparently there is a tendency, considerably, if not entirely, to forget the functional analysis as the discussion proceeds. Even if it is assumed that the analysis has been deliberately made in functional terms, it appears to be soon neglected, if one is watching for a thorough-going plan. It is the structure of social devices rather than "what they are for" that receives attention. There is need, then, of an organization of social-economic material that states the problem in "fundamental" functional terms and then attempts to use in discussion such appropriate and convenient devices as will aid the understanding in retaining the functional viewpoint.

A final question may be raised regarding the orthodox organization. It may not be the most satisfactory functional analysis possible. Changed conditions demand changed methods, and it may well be that a functional analysis can be found not only more logical but more useful for contemporary students than that presented in the orthodox scheme. It is with the hope of stimulating

such analyses rather than of ending them that one functional approach to social-economic study is here suggested.

The assumptions of the suggested approach to social-economic study.—The assumptions upon which the suggested functional approach proceeds in outlining a plan for economic study should be made clear before the outline is examined. Briefly, the method undertakes, first, to make clear the general fact of wants, the insufficiency of free goods, and the necessity of producing economic goods.¹ It then proposes by way of introduction:

1. To lay stress upon the fact that society as a whole has at its disposal certain resources or assets. These resources may be classified as natural resources, labor power, capital, and acquired knowledge and institutions.² Taken together, these comprise the precious sum-total of raw materials with which society may do as much as it can in carrying out its purposes.

2. To lay stress upon the fact that social resources are at any one time limited in amount.

3. To suggest to the student the attitude of mind that will seek to find every economic activity in some fashion woven into the work of doing with society's resources what society "desires" to have done with them. (What society desires is judged, of course, by the indicators which society at present uses.) There is intended no implication that society "desires" rationally or consciously. Certain uses for our resources are determined, however. After these preliminary ideas follows the suggestion that the entire complex of social-economic activities is concerned with performing only a few more or less "basic" functions or tasks.

The "basic" functions.—Given any society with certain resources, what shall we consider as the basic functions or tasks

¹ Wants may be wants for ideals as well as anything else. Economic goods may be programs of social reform as well as cheese and beer. The economist recognizes this fact. See Ely, *Outlines of Economics*, pp. 3-7.

² There is no important difference, for the purpose of this paper, between these social resources and the so-called factors of production. By "acquired knowledge and institutions" is meant the various techniques, ranging from language and government to mechanics, which society has developed in its evolution. A full discussion or acceptance of this point is not essential to the purpose of this paper.

that are carried on? The question suggests a number of interesting possibilities. Chiefly there arises the question whether we shall attempt to determine the ultimate or final functions which distinguish organized social life from the lack of it—thus following perhaps the attempted analysis of the biologist—or whether we shall follow rather the expository method of the physiologist and psychologist and utilize for purposes of instruction certain semi-basic functions, perhaps enabling ourselves from this middle ground better to survey the whole range of function and method in social process.

There probably can be no positive answer as to which is the better method for all purposes. There is certainly more than one possibility. As will appear, something of both methods has been used in the plan offered. Two or three matters, however, have been kept in mind. An effort has been made to break the whole process into tasks or functions which are sufficiently fundamental so that other lesser tasks, functions, and activities may be classed under them as methods of performing the social tasks taken as basic. The matter of inclusiveness has also had consideration. Functions must be used that are broad enough to cover the phenomena to be discussed. The reader will also notice the evident belief that the functions or tasks chosen will be of greater pedagogical value if they are such that their performance can be observed in several types of societies. Especially will they be useful if they can be distinguished in primitive and ancient as well as in modern groups. Such a choice of functions makes possible a constant comparison of the methods of various societies that is more than fruitful in enabling the student to see even our larger present institutions as present methods or means for accomplishing purposes. It makes possible a comparative study—the basis of the evolutionary view. It is an obvious corollary that, once one can view the make-up of society as a combination of *methods*, he has the basis for intelligent social analysis and rational guidance of social change. Sensing society in evolutionary terms is father to the thought of guiding the evolution.

Without attempting to weigh all of the possibilities which might come to mind, consider the following plan. Organized social life

may be viewed as a continuous process of adaptation involving the performance of the "basic" functions of:

- I. Production, which furnishes the means of life.¹ Production is observable in social life in certain phenomena which may well be considered as the social *methods* of production.
- II. Determination, which we may conceive of as designating:
 1. As regards production:
 - a) The *ends* to which production may be carried on. That is to say, certain social agencies put a limit on the field of production, as in forbidding the manufacture of whiskey or of white phosphorous matches.
 - b) The *methods*, in the larger sense, that shall be employed in carrying on production. For example, when, if at all, we shall use the individual self-interest scheme in directing productive activity, and where, if at all, we shall use governmental authority or other devices.
 2. As regards determination itself:
 - a) The methods that determine the methods that operate in determination.
 - b) The values or standards by which existing methods, either of production or determination, are measured in determining retention or change of these methods. Back of this lie the method and values that determine values and so on into an interacting complex that is as yet unanalyzed by the psychologist.

A CONSIDERATION OF PRODUCTION

A consideration of the function of production as a whole is difficult for purposes of instruction and clear vision. Analysis of the concept shows that production has several phases, or, perhaps better, involves several interdependent, overlapping sub-functions exactly as does the physiological concept of metabolism or the psychological concept of intellectualizing. We may then view the function of production as involving the sub-functions of: (1) conversion of social resources; (2) apportionment of social

¹ The usual economic definition of production is near enough to stating what is meant.

resources; (3) the reduction of risks and wastes of social resources. Keeping in mind the thought already indicated, that these are largely interdependent and overlapping but that for purposes of study it may be well to view them separately, consider the suggested content of each.

1. *Conversion*.—Any social group must convert its raw materials, its natural resources, labor power, present stock of capital, and its acquired knowledge and institutions into those material and immaterial commodities that, under its “mores,” customs, laws, and other agencies of determination, may be legitimately used for want satisfaction. The group of activities that are most obviously concerned with this work may well be studied as the methods used to carry on conversion.

2. *Apportionment*.—Not only must any society convert social resources into goods, but within the field determined as permissible it must determine *what* goods. *What* goods means not only what consumers’ goods and how many and what varieties of each kind, but also what production goods or resources shall be replaced or increased. That is to say, any society gives heed to the question of keeping up its supply, not only of capital equipment, but of natural resources, labor power, and acquired knowledge and institutions. There is no thought in any of this to personalize society. Some of the work of apportionment is consciously done, as perhaps when an economist advises the Federal Reserve Board regarding the discount rate or when an educator promotes vocational schools. Much is certainly unconscious, as when the typical citizen adds to his savings account or devises a new mechanical appliance.

To increase or maintain the supply of these resources society must use those which it already has. There is no other way, barring accident, whether the increase comes by discovery, invention, or improvement in organization. This is as important a problem in apportioning resources as is the determining of what kinds of consumers’ goods to produce. Clearly enough, this task of apportionment goes on closely interdependent with conversion—is in fact largely the control of it. But there are a large number of modern activities and institutions whose functional significance

in society is most quickly and clearly seen when they are discussed as aiding in society's task of apportionment.

The work of apportionment, as the term is here used, has frequently no concern with social welfare. In so far as the method used is individual self-interest, this is true. Apportionment is the task of making the decisions indicated above, but only within the field that is at any given time the legitimate field. Apportionment implies a short-time view of social aims. It is concerned with determining how much beer and how many Bibles, not with determining that either or neither is proper. The task of apportionment, in so far as it is done by the method of individual self-interest, is to decide what shall be done with our resources within the area that economists usually cover by the term "demand." Economists may have erred when trying to limit themselves to activities carried on in response to demand. Demand is itself only a phase of the economic process. Demand must be explained; it cannot be assumed. In any event, the proposed approach to social data includes a recognition of the methods of determining the desirable purposes of social activities. But apportionment is not that task. Of those goods, material or immaterial, which it is permissible to make, what ones shall we make and how many of each? Changing the purposes to which we may permissibly apportion resources is discussed as another function.

Reduction of risks and wastes.—The methods by which society performs the work of production are, in the process, undergoing constant revision. We are, in many cases, quite clearly conscious of imperfections. Certain devices used to convert social resources are rapid, but declared to be wasteful. Many devices used in apportionment perform, we say, but poorly. Child labor, machine industry, and private exploitation of natural resources may all convert resources with desirable rapidity, but carry with them what we call social waste. The methods that are used to reduce risks and wastes of social resources, ranging all the way from such institutions as public ownership and private property to patented sprinkling systems and belt guards, show their work of risk-reducing quite plainly when studied under risk and waste reduction as a distinct function.

The use, in teaching, of this function of "risk and waste reduction" brings out in a vivid fashion our double standard of waste which allows us to use pecuniary evaluation and at the same time talk of reckless, wasteful exploitation of resources. The fact is, of course, that we have two standards. No method is long used in business which is known to be wasteful from a pecuniary standpoint, and nothing which pays can fairly be called wasteful so long as we utilize individual self-interest to control apportionment. To illuminate this, one social paradox would alone justify the use of "reduction of risks and wastes" as a sub-function for purposes of study and organization of social-economic material.

Moreover, a whole range of social problems is illuminated by this method. From this viewpoint not only does the social significance of conservation, "safety first," child labor, disease, market information, changes in technique, unemployment, and radicalism come out prominently, but the question, "What is proper use?" demands an answer and no sentimental or superficial answer will longer suffice.

The manner in which modern society intrusts the guarding of its social assets to the watchdog of self-interest by the method of private property is illuminated by a consideration of risk and waste reduction as a social function. The limitations of this method are also more clearly seen than if we study private property as a thing apart. The extent to which methods designed chiefly to protect against risk and waste of privately owned resources operate to reduce risk and waste of social resources can also be indicated with a clearness that may well justify the treatment of risk and waste reduction as one of the interdependent sub-functions of production.

DETERMINATION AS A "BASIC FUNCTION"¹

Any society which is not wholly static will exhibit numerous phenomena that have chiefly to do with determining what changes shall occur. Just as truly a static society will exhibit many

¹ The reader should not infer that there is any implication that this function is carried on wholly consciously. The conscious and unconscious shade so imperceptibly into one another that nothing is to be gained in a general study by an attempt to discriminate between unconscious control, as by social tradition, and conscious planning, as by governmental commission.

institutions which keep it static. These phenomena can profitably be studied, if their social significance is sought, as methods of determination.

Society carries on in this function two chief pieces of work. One is to determine its purposes, aims, and standards. This may be done planfully as by research, laws, and committees, or subconsciously as by the "mores," or by a combination of both methods too intricate to be disentangled. The other task is to determine the methods most suited to accomplishing the objectives and securing conformity with the standards. This task also may be carried on by subconscious or "rational" methods, or both.

In a word, the function of planning, guiding, and controlling the social process is the double task of determining what to do with society (and we can do with society or consciously determine what to do with it only by utilizing social resources), and determining what methods shall be used for doing with society those things which we determine to do.¹

There is a place, therefore, in social-economic study for considering as such the institutions or phenomena that function as methods in determining the "whither" of society. Related to this there is a place for considering as such the institutions or phenomena that function as methods in determining what methods shall be used in converting, apportioning, reducing risks and wastes of resources, and in guiding society in evolving toward that "whither." We must consider as well those social methods that determine the methods of both the above. Such social phenomena as these—existing in any society—yield their social significance to study perhaps most readily when considered as the methods by which society performs the function of determination.

General explanation is after all less clarifying than specific illustration. Probably the best way to make clear what is involved in this approach to social-economic study is by an outline of the method as it has actually been used. There is given first a brief skeleton outline to show merely form, and this is followed by a

¹ It is hardly necessary again to remind the reader that society is constantly determining these matters, whether anyone realizes it or not. Realized or unrealized, we have powerful methods at work.

discussion designed to elaborate the outline and to show specifically what may be done with each topic.

POSSIBLE OUTLINE FOR A FUNCTIONAL APPROACH

INTRODUCTION

The introduction, whether or not it is to be followed by such material as has been suggested in the preceding paragraph, should set forth clearly: (1) the fact of wants, (2) the deficiencies of nature, (3) the materials which nature does supply and the limitations of these at any given time, (4) what society has in addition to natural resources at any time; that is, supplies of labor power, capital, and acquired knowledge and institutions. This introduction should also explain the functional approach in a general fashion and the general meaning of each of the functions which has been determined upon.

BODY¹

Organized social life may be viewed as a continuous process of adaptation involving the performance of the functions of:

- I. Production, which may be considered as involving the inter-dependent sub-functions of:
 - i. Conversion, which in modern societies is carried on by such methods as:
 - a) Specialization
 - (1) Within single economic units
 - (2) Of localities
 - (3) Of economic units
 - b) Capital industry ("machine industry" may suit some better, though the term is too limited)
 - c) Concentrated business units
 - d) Individual enterprise and associated enterprise

¹ The material outlined here might very sensibly be preceded by an introductory section showing the economic organization of some other period. The organization of a primitive group or of a medieval manor might do well. For some purposes the organization of an army unit makes the best material for comparison with our economic system. Some such preliminary survey makes possible that very useful pedagogical device that the physiologists call "comparative physiology."

2. Apportionment,¹ which in modern societies is carried on by such methods as:
 - a) Individual self-interest
 - b) General interest, both of which are aided by such techniques as:
 - (1) Pecuniary paraphernalia; pecuniary units, coinage, checks, etc.
 - (2) Types of business organization; corporations, holding companies, governments, associations, "foundations," etc.
 - (3) Banking and other financial techniques
 - (4) Market news and social surveys, including in the terms all information gathered by the consular service, salesmen, the Department of Agriculture, budgetary committees, trade journals, bureaus of research, etc.
 - (5) Scientific internal business organization, including time and motion study, job analysis, intermittent work, etc.²
3. Reducing risks and wastes of social assets. This sub-function can best be studied by considering the reduction of risks and wastes of various kinds of social assets separately
 - a) Risks and wastes of physical resources, in modern societies reduced by such methods as:
 - (1) Improved techniques of conversion
 - (2) Scientific research
 - (3) Improved accounting methods
 - (4) Conservation movements
 - (5) Reclamation service, agricultural schools, experiment stations, "forestry," etc.
 - (6) Public ownership and control (in some instances)
 - (7) Private ownership and control (in some instances)
 - (8) Scientific internal business organization (if not considered above), etc.

¹ Some will comprehend this idea most quickly if they think of it as the organization or control of production.

² These could quite as well, perhaps better, be studied as a method of reducing wastes and risks.

- b) Risks and wastes of capital in modern societies, reduced by such methods as:
 - (1) Private ownership
 - (2) Advertising
 - (3) Speculative and other contracts
 - (4) Integration
 - (5) Social control of capital creation
 - (6) Insurance
 - (7) Accounting
 - (8) Public protection
 - (9) Pilot service
 - (10) Bureau of Mines
 - (11) Department of Agriculture, etc.
- c) Risks and waste of human resources in modern societies reduced by such methods as:
 - (1) Those which lessen risks of capital
 - (2) Labor exchanges and employment bureaus
 - (3) "Safety First" movements
 - (4) Public and private health propaganda and agencies
 - (5) Vocational guidance and education, public and private
 - (6) Private property in goods
 - (7) Birth control
 - (8) Private property in labor, etc.
- d) Risks and wastes of acquired knowledge and institutions, reduced by such methods as:
 - (1) Education, books, etc.
 - (2) Research, in social methods especially
 - (3) "Conservative and liberal agitation," free speech, suffrage
 - (4) Political machinery, including laws
 - (5) Custom, tradition
 - (6) Private property rights, etc.

II. Determination, in modern societies carried on by:

- 1. Such largely subconscious methods as tradition, social habit, morals, caste systems, religious creeds, ideals, customs
- 2. Such conscious or semi-conscious methods as government, law, propaganda, education, etc., with many subdivisions

3. Such scientific and semi-scientific methods as psychological, social, biological, anthropological, and other research

A DISCUSSION OF THE OUTLINE¹

Organized social life may be viewed as a continuous process of adaptation involving the performance of the functions of:

- I. Production, which may be considered as involving the inter-dependent sub-functions of:

1. Conversion, carried on in modern society by such methods as:

- a) Specialization

- (1) Within single economic units

Here the student can be shown the significance in conversion and thus to the whole economic structure of such phenomena as division of labor in the factory and office, and specialization of capital and management. Some of the advantages, disadvantages, and general and specific effects which are usually indicated in such discussions can be pointed out if desired. It would be well to make very clear that specialization is a method used in governmental or co-operatively operated units quite as freely as in private business units. In other words, specialization is a method of conversion that may be used with a variety of other methods perhaps as well as with private enterprise.

- (2) Of localities

International trade, in fact, trade between any localities viewed as a form of specialization is readily seen from this viewpoint as a method which society uses in converting its resources into want-satisfying goods. The significance to society, therefore, and the functional position of all the detailed phenomena connected with trade become discernible. In this section one may, once this point

¹ It will undoubtedly seem to some that any such introduction to social data as is here suggested should include a study of "consumption." There is much to be said for such inclusion and its omission from this paper is not founded on the idea that "consumption" is not an extremely valuable "function" under which to correlate many activities as methods. It would probably lend itself well to treatment very similar to that given the functions used. Can we not, for example, usefully consider consumption as carried on by such methods as sustaining life, child bearing and rearing, worship, leisure, recreation, display, etc.? Consumption can be thought of as "determined" by such methods as literal physical need, fashion, "invidious comparison," "emulation," etc.

is clear, go as far as he pleases in working out the various circumstances under which specialization of localities proves to be a desirable method, and as far as he cares to go in examining the material which is usually given in courses in marketing and foreign trade. In any case, the social significance of that material will be indicated.

(3) Of economic units

Each economic unit, whether a bank, a bourse, a legislature, a warehouse, or a retail shop, is a specialist. This view of specialization of economic units, viewed as a social method, furnishes an excellent scheme for studying our middlemen, organized markets, efforts at standardizing commodities, bureaus of inspection, government marketing of goods, patent offices, and showing how these function in the great social task of converting resources into want-satisfying goods. Detailed study of marketing may be pressed as far as time and desire permit. Once this view is taken, however, all the activities concerned with marketing relate themselves directly to this form of specialization as a social method of carrying on conversion.

The study of specialization offers frequent opportunities to point out the social problems intimately related to, if not flowing from, specialization as a method of conversion. Interdependence in its many phases, the impersonality of modern relationships, the risk elements introduced, and the unique, co-operative character of all those participating in specialized conversion can be well indicated at the conclusion of this part of the work.

A momentary digression seems desirable here to touch on a more fundamental matter. To treat distinct economic units as only a phase of specialization is not in accord with a practice that has been very common. There has been a practice of dealing with the phenomena of buying and selling between business units under the heading of "value," "exchange," or "value and exchange."¹ And to a very considerable extent at least this "valuing" and "exchanging" has been thought of as the valuing and exchanging

¹ Mill, *Principles of Political Economy*, Book III; Gide, *Political Economy*, Book II, chap. iii; Seager, *Principles of Economics*, chap. vii; Ely, *Outlines of Economics*, Part II; Taussig, *Principles of Economics*, Book II.

of commodities. In some instances, at least, the thought has been of commodities which have been produced. A clear illustration is found in Gide:¹

Exchange fills a huge place in social life. Sufficient proof of that rests in the fact that nearly the whole of wealth which is produced is only produced for the purpose of being exchanged. Take the corn in the granaries, the wine in the cellars of land proprietors, the clothing in the tailoring rooms, the shoes at the bootmaker's, the jewels at the goldsmith's, the bread at the baker's—and ask, What part of all this wealth is destined by the producer for his own consumption? Very little or none at all. It is only merchandise, or, as the name tells, objects intended for sale.

A similar statement is found in Taussig:²

The division of labor brings in its train the exchange of goods between those who undertake the separated acts of production. Exchange in turn brings the phenomena of value, money, and prices.

That it is more or less “finished” commodities that are commonly in the mind of the economic writer when discussing the subject of “value” or “exchange” is a fair inference in many cases where the fact is not bluntly stated. It is the marketing, the price fixing, of commodities or services which are well advanced toward complete production that are considered. There is no discussion of wages under exchange nor the implication that wages could be treated there. Yet a wage is the price for which a majority of the co-operators exchange their contributions to production. The discussion of interest and rent also are reserved for discussion in other connections. Why? Are not these, including wages, merely the “exchange values” of the specialized contributions made by certain of the co-operators?

To deal with the matter of exchange as it has commonly been dealt with, as the exchanging and valuation of produced commodities, was probably quite justifiable when Adam Smith wrote:³

When the division of labour has been once thoroughly established, it is but a very small part of a man's wants which the produce of his own labour can supply. He supplies the far greater part of them by exchanging that surplus part of the produce of his own labour, which is over and above his

¹ *Political Economy*, p. 169.

² *Principles of Economics*, I, 113.

³ *Wealth of Nations*, Book I, chap. iv, p. 10 (McCulloch's edition).

own consumption, for such parts of the produce of other men's labour as he has occasion for. Every man thus lives by exchanging, or becomes, in some measure, a merchant; and the society itself grows to be what is properly a commercial society. . . . One man, we shall suppose, has more of a certain commodity than he himself has occasion for, while another has less. The former, consequently, would be glad to dispose of and the latter to purchase, a part of this superfluity. . . . The butcher has more meat in his shop than he himself can consume, and the brewer and the baker would each of them be willing to purchase a part of it.

In Smith's day "exchange" was more largely than now a matter of exchanging completed commodities. It was then more accurate, perhaps, to think of a man producing a commodity and, having supplied his own need, offering the balance for exchange. But where now (save in some instances of produce growers and a few small manufactories) is such a case to be found? The heel slugger of the shoe factory slugs no heels for himself. The wheat grower of Minnesota uses no more of his own wheat than the Texas cotton grower does of his own cotton.

But of still more pertinence is the query, Who now produces anything in complete form?¹ To see the type of analysis now needed it is necessary to note what is involved in modern exchange. In modern society interchange or exchange takes place by contributions of "divisions" of privately owned rights. Some of these are in the form of labor. Some are other rights. When labor is contributed, as when other rights are, it is highly specialized. The factory hand is exchanging when he works at the drill press in exactly the same way that the clerk in the retail store and the brakeman on the railroad are exchanging when at their specialized jobs. If this view is sound, it is misleading to emphasize the marketing process as the machinery of exchange. If we emphasize the idea that such exchange of specialists as exists now is effected by market structure in the commercial sense of the word, do we not imply that marketing agencies are something different from specialization in part of the process of production? Marketing is, of

¹ The economist, of course, has always recognized the truer meaning of "production" when he included the creation of "place," "time," and "possession" utilities in his definition of that term. By the time the discussion of exchange was reached, this definition appears frequently to have been neglected.

course, part of production, and here we find specialists exactly as in the factory—specialists within business units, and specialization of business units (series).

Is not the specialized work of the marketing agent, the salesman, the ticket agent, or the grocery clerk of a co-operative character, in the social sense, quite as much as that of the specialized factory worker; and is it not made co-operative or exchanged quite as much by means of the factory, as the work of the factory employee is made co-operative by the marketing machinery?

In other words, in present-day society we have specialization which necessarily involves co-operation, but the organization of that specialization is not to be explained by describing what we ordinarily call marketing, and the emphasis upon marketing machinery as playing an especially large part in this is misleading.

To describe such interchange of highly specialized co-operators no discussion of selling finished or partly finished goods will suffice. To describe it involves an examination of the entire organization of production. To separate it from that discussion serves, it appears, no useful purpose. When modern specialized production has been described, exchange has been described. There is no structure of exchange except the structures of production. Production is not complete until exchange has taken place.

b) Capital conversion or capital industry

By this term is not meant the conversion of capital, but capital as a method of conversion. Capital viewed as a method of conversion—and it undoubtedly is a method used by modern society—will necessarily bring up for examination all of those phenomena which have been so well treated under the discussion of “machine industry” in many treatises.¹ The historical changes by which society took on this method of conversion, its meaning, pervasiveness, and productivity are naturally appropriate matters for discussion, while results in such directions as effects on the worker, overhead costs, the rise of trusts, new elements of risks, impersonality, and new demands on social control cannot be overlooked. The point of view most to be emphasized, of course, is capital as a

¹ The use of capital is so extensive in forms other than the machine that there seems to be much reason for the use of this general term.

method. The student then sees readily that no society can hope wholly to avoid the problems of capital, if the capital method is used.

c) Concentration of economic units

Concentration in economic units, meaning economic units both large scale and integrated, is a social method. Treatment of this method as a means used by society for conversion brings into view in their functional aspect all of those economic phenomena which are usually discussed under large-scale industry and integration. The method can be seen in proper interdependence with its benefits and the problems it brings. But the student must not be left with the notion that it is in private business enterprise only that society uses this method. Our co-operative undertakings display it quite as fully. Our government itself is an excellent example. Our Departments of State, of War, of the Navy, and of Agriculture illustrate our use of this method quite as well as the packers, the steel trust, and the chain store.

d) Individual enterprise and associated enterprise¹

The method which modern societies use prevailingly to organize their efforts for conversion is to allow the individual to use his initiative. This is clearly a method of organizing conversion. (It has other functions also, of course.) Other methods of organization are possible, however, and are really used to such an extent that it is probably an error to stress too heavily the idea that ours is a society in which private enterprise is the only means of organization worth considering. The range of work done by governmental agencies gives denial. The increase of governmental activities is rapid. Moreover, few opportunities will be found better to describe two great social methods operating side by side, one apparently gaining on the other in the extent of its operations. The amount of conversion organization carried on by associations of lesser significance than the government is also worth considering. The view of individual enterprise as one social method makes possible a vivid discussion of conversion organized by other methods, as in communistic, socialistic, and customary groups. It presents an excellent opportunity to bring out certain phases, at least, of the

¹ These methods could as well, perhaps better, be considered under apportionment. To the writer there seems little choice.

social significance of private property and its relation to the method of private enterprise.

To summarize, this approach to the production function brings certain advantages in analysis and for teaching. Throughout the discussion of conversion, for example, and the various methods which society uses to accomplish it, constant use may be made, when this point of view is kept, of contrasts between the actual methods and other possible methods. Specialization becomes vivid as a method of production if it is contrasted with the methods used by Indian tribes. Capital conversion, in the same way, takes on significant meaning if contrasted with the methods of the primitive group, of the medieval craftsmen, or of the tribesmen of Israel. Furthermore, the student may be brought to see vividly that the so-called problems are closely related to these tremendous social methods which are in use. More specifically, concentration of economic units viewed as a method of production throws light on the trust problem, on increasing centralization of government, on the methods of social control which are becoming more common, and on the question of autocracy and democracy, both in business and in politics. Individual enterprise viewed as a method rouses the student to note that socialism and other proposals for reform are in themselves mere methods, not finalities. The student may see that the adoption of any new methods would not do away with the necessity for other methods which society is using and consequently could not wholly eliminate the problems which come from these other methods. Perhaps the student will see, too, that certain of the methods which are in use could not be shaken off, even if we knew the technique of ridding ourselves of them, without consequences perhaps fatal to social organization.

2. Apportionment, carried on by

- a) Individual self-interest
- b) General interest

How does society determine the uses to which its resources should be put, within the field that is considered legitimate at any one time? What amount of its resources should go back into re-creation of resources? In an army unit, let us say, we move a man from the rear to the first-line trenches by means of an order; we send guns and ammunition with him by the same authority;

we convert a cavalry regiment into infantry; we send one party on a scouting trip in airplanes and another to fight a rear-guard action by the same method. This is apportionment of resources by authority. In modern society it is clear that this is not the method more ordinarily used. Resources are apportioned (this assumes private ownership)¹ by the self-interest lure. Resources tend to go in the direction of greatest profit to their owners. This is true whether the resources are land, labor, capital, or acquired knowledge and institutions. The method is not apportionment by authority; it is individual self-interest apportionment. As subdivisions of such a viewpoint the social function of accurate pecuniary units involving government coinage and control of money becomes clear. The function of accounting and the need for calculation systems become equally obvious.

This view of the way in which our resources are apportioned shows the student the fact, too little realized from a perusal of the typical treatise, that our productive effort is directed most commonly not to satisfying society's wants but to satisfying the wants of those who *have*. Pecuniary demand may be anything but social wants or needs. It may be "organized wrong."²

Nevertheless the assumption of individual self-interest apportionment is not the whole truth. Governmental budgets are not made to produce profits. The law, the courts, national armies and city police, the public schools, and a score of other forms of organized production give supposedly equal service to those with and those without purchasing power. In so far as these forms of production are created from privately owned social resources, the pecuniary paraphernalia are in part usually employed. Frequently they are of little service as compared with other methods. Men, for example, do not face flame projectors for thirty dollars a month. But in these forms of social-enterprise production where the pecuniary method is used to carry through the process the instigation is not profits but a conception of need. It is not individual self-interest but general-interest apportionment.

¹ This point is an excellent one at which to indicate the pervasiveness of the institution of private property.

² See Cooley, "Political Economy and Social Process," *Journal of Political Economy*, XXVI, 369.

The view of the extent to which the self-interest method of apportionment operates can well be used, too, to make clear to the student that where that method is in vogue society does not organize its apportionment for the distribution (in the usual economic sense of the term) of consumption goods. When goods are converted, or produced in the economic sense, distribution in the economic sense is already largely accomplished. The loaf is not produced until it is applied to my want rather than to my neighbor's because I have a dime and he has none. *There is in modern society, in so far as self-interest apportionment is employed, no such function as distribution in any basic sense. It is merely a method of organizing conversion.*¹

(1) Pecuniary paraphernalia

The great amount of pecuniary paraphernalia which society has devised is of immense use in apportioning our resources. Among this paraphernalia, the pecuniary unit and a standard of value stand out as strikingly important. Coinage and the various types of instruments which represent purchasing power all have, however, their obvious uses. This pecuniary paraphernalia serves a double purpose in self-interest apportionment. The individual business manager is told in pecuniary terms the direction in which society wishes to have resources apportioned. He then uses pecuniary paraphernalia in securing the use of resources. Where apportionment is made in the general interest, as by the governmental or other social groups, guidance is not given by pecuniary demand, although the pecuniary paraphernalia is used to secure control of social resources.

(2) Business organization as a method of apportionment

Business organizations, public or private, may be viewed as techniques used in both self-interest and general-interest apportionment of resources to various productive uses. Businesses may, of course, be organized to apportion resources to consumers' goods

¹ In the foregoing discussion the term "distribution" is used in the conventional economic sense of the division of the social dividend into rent, wages, interest, and profits. Distribution in another sense might well be treated as a basic function. Such a discussion would deal with the control of the distribution of wealth which is implicit in the existing organization of property rights, inheritance, taxation, charity, public works, etc.

or to the maintenance or increase of society's supply of any of its productive goods. Business organization, viewed as a method of apportioning social resources, indicates that partnerships, corporations, amalgamations, and trusts are means of increasing control over the amount of resources which are apportioned in any desired direction. Interlocking directorates, "dinner parties," and other informal means of control can also be seen as types of business organization for increasing control over society's resources to the end that they may be apportioned as the organizers desire. The interdependence of our types of business organization with self-interest apportionment, with private property, and with individual enterprise is easy to show. So also the interdependence of the problems centering around these institutions. There is no reason, however, for failing to show the fact that social-enterprise forms of organization are an alternative method. The United States Grain Corporation and Shipping Board could buy and sell as well as the Standard Oil Company.

(3) Financial institutions as techniques

Once the idea of self-interest apportionment is clear and the fact that it is business organizations which hold the strategic points in apportioning society's resources, the real social usefulness of such techniques as banking and other financial operations becomes apparent. Social resources, privately owned, can be drawn into use by the financial lure. The organizer, public or private, undertakes to furnish the attraction. Private financial institutions are important among those which men have found it profitable to use to aid them in securing pecuniary power. From this point of view the operations of the savings bank, the insurance company, the bond house, the commercial bank, the underwriter, and the stock exchange, all appear as interdependent techniques useful in a society which uses so extensively the self-interest method of apportioning its resources. Taxation is seen as a corresponding financial technique, of chief use in general-interest apportionment.

(4) Market news as a technique of self-interest apportionment and some governmental apportionment techniques

Before and after a private business organization commits itself to apportioning resources to some particular end it is concerned

with the social demand for the commodities. This demand may, of course, be a demand for producers' goods or consumers' goods. Society is demanding (in the economic sense) that resources be apportioned to certain ends. The techniques which we use in our self-interest apportionment to indicate to private business organizations the profitable activities to which to apportion resources may well be classed as the techniques of market news. From this point of view, all the agencies of demand interpretation take on a new social significance. The student sees in a related social aspect such agencies as the board of trade, government crop reports, consular service, commercial agencies, statistical and research companies, and private-research experiments, which function in showing private business organizers the direction in which society is demanding that its resources shall be apportioned. Nor must we forget that market news gathers information about society's wishes for increases in social resources—new capital and the like—as well as of society's wishes for consumers' goods. Government has its own scheme of techniques for effecting general-interest apportionment. These are far less well developed than those of private enterprise. Appropriation committees, the "pork barrel," logrolling, and budgetary practices should be included.

(5) Scientific internal business organization as a method of apportionment

One of the means by which modern society attempts to apportion its resources to productive uses is by "scientifically" organizing the proportions in which the factors are joined. The law of diminishing returns, as it finds application in business, leads to an attempt to combine resources in the most effective combinations.¹ Not only can the law of diminishing returns be shown in its functional aspects, but the student can be brought to see that the social significance of scientific management with its time and motion study, choice of the right man, grading of workers, plans of payment, as well as different types of management such as line and staff, are all methods which may bring about a more effective use

¹The most effective combination in private business means, of course, the most effective from the pecuniary viewpoint. In a world in which we use self-interest apportionment so extensively it is natural that this should be the test.

of society's resources in satisfying society's wants.¹ Accounting as a means of directing many of these methods comes to be seen as an instrument of vast social importance. The interdependence of our social methods and techniques can scarcely be better illustrated than here where the interrelation is seen between private property, society's wants, and the half-score of sciences involved in "intensive organization."

3. Reducing risks and wastes of social assets

a) Risks and wastes of physical resources

Enough has been said in explaining the meaning of this phase of production in the outline to make a very limited discussion sufficient in this place. A student can be brought to see the peculiar nature of this problem of risks and wastes of physical resources, involving the constant conflict between immediate and long-distance points of view and the constant conflict between our social ideals of the perpetuity of society and our method of self-interest apportionment. The specific wastes, even pecuniary wastes, which are due to a lack of general knowledge of good methods of mining, farming, forestry, and the like may be indicated, and the manifold agencies, such as research agricultural schools, engineering schools, governmental aid, and propaganda, which society is employing to check these wastes, can be seen in the light of their work for society. Here, too, we may see private property as a great method, at times of waste and again of conservation. Public control can be shown in the same light. More than this, a basis can be laid for a really intelligent valuation of such projects as irrigation and reclamation in which our double standard of efficiency is involved.

b) Reducing risks and wastes of capital

The question of when we are risking or wasting capital, from a social standpoint, brings with it a question of our standard similar to the double standard in connection with physical resources. The functional method of approach makes it clear that, for the most part, we rely on private interest, interdependent with private

¹ Always remembering that "society's wants," in the field in which apportionment operates, means most commonly the interpretation given by market news in pecuniary terms.

property rights, as a method to conserve society's resources of capital. A long series of such devices as insurance, speculative contracts, and various types of physical protections which aid in conserving capital can be seen in their relation to society's work. Perhaps even more important is the way in which there can be brought into understanding the whole question of when it pays to change. Advertising, integration, and conservatism are all to a considerable degree stimulated by the desire to reduce risk. All of these prove to be methods which conserve the quantity of capital which society possesses. Innovators of every sort, the promoter, the organizer of new schemes and methods, are constantly attempting to induce society to create new capital¹ which will throw old capital into the scrap heap. Often these proposals involve merely additions, but frequently they propose a change in quality of capital. Such a view gives the student some basis for judging new projects from a social standpoint. He can see something of the real social significance in such social methods as the Capital Issues Committee and the "blue sky laws."

c) Risks and wastes of human resources

To use its resources of labor to the best advantage in conversion, society must be constantly on the watch against inefficiency, unemployment, and losses in numbers.² The social significance of unemployment, of diseases, of accident, of illiteracy, of vocational misfit, of voluntary idleness, can be brought into the light of something more illuminating than sentimentality or employers' profits. The methods which society uses to do away with these losses—such methods as labor exchanges, public-health agencies, "safety first" movements, general education, and vocational guidance—can be studied as social methods. The way in which private enterprise and private property in goods and in labor function to keep human resources at a maximum of efficiency and of employment and the limitations of these methods can be examined in a way which suggests something of rational procedure for social regulation.

¹ Sometimes, of course, new institutions or organizations with it.

² Provided, of course, that the point of diminishing returns has not been passed and that the maximum number of living cells is not the social goal.

d) Risks and wastes of acquired knowledge and institutions

Not least among society's resources are the measure of stability and coherence it has effected, the methods it employs in carrying on its tasks, and the co-ordination which it has secured in the use of these various methods. Supplemental to this are useful lore and techniques—language, the proprieties, writing, engineering, kindness, bricklaying, civility, freedom, and innumerable others which society has acquired. To conserve what we have of these, perhaps especially to conserve our ability to use them fairly well in combination, is among the most important of social interests. Perhaps the danger of loss of these resources becomes most apparent when we view the social upsetting of such a nation as Russia. Other Russian resources immediately following the revolution were no less than they have been immediately before, but Russia appeared to "lose the combination." The effect upon the total social resources of Russia, if reports are to be credited, was serious.

From this viewpoint it is not overly difficult for the student to see the functional significance of conservative, liberal, and radical attitudes in our society and of agencies which threaten or support freedom, liberality, and justice. From such a viewpoint we see more clearly what Ross means in saying that the real crimes in modern life are those that endanger the "freedom of the press," "manhood suffrage," "the law-abiding spirit," "the free public schools," "representative government," or some other "pillar upholding our civilization."

II. Determination

Why do we do as we do? The answer to this question is a discussion of the social function of determination. This is a function the discussion of which the economist has left largely and perhaps wisely to the social psychologist and sociologist.

Obviously there are vastly too many matters to be considered in studying determination for any single course or sequence of courses in one group to do more than suggest the most meager outline of what is involved. We do *do*, however, and no survey of social activities could bear a semblance to adequacy which did not raise the question of why. Why do the particular methods operate which do operate in performing the functions under

discussion? Toward what ends, if any, does the social process proceed? If society does work toward ends which in some fashion it determines, how are these ends determined? If toward no ends, what are the standards by which social action may be judged? What are the controls which cause social structure to change to the extent that it changes, and to remain the same to the extent that it does so? Why and how is a certain field marked out as a legitimate one in which production may operate, while the creation of certain want-satisfying goods and services is opposed by strong social agencies? Why is the pecuniary method given almost complete sway in certain fields, while governmental and quasi-public guidance dominate other fields?

He who would effect social changes, small or great, must know the tools. The same is true for him who would conserve existing social structure. The treatment of social determination as a function makes clear the fact that there are deep-lying methods by means of which social determination is effected. Creeds, political faiths, moral codes, customs, religions, ideals, traditions, clan and caste systems, taboos, laws, and beliefs are all among the methods. The function of psychology and biology, of social studies such as economics, sociology, and anthropology as promising possible techniques of conscious control becomes apparent.

That all the deep-lying methods can be influenced by conscious effort is attested by proselyting, advertising, missionaries, the lobby, and multitudinous other forms of propaganda and education. While the social-science departments of great universities may hesitate to introduce courses in the technique of the lobby, boss politics, or social propaganda, their more spirited colleagues, the divinity schools and schools of commerce, have embarked unhesitatingly upon the teaching of all forms of technique that will modify to their users' ends the methods of social determination. Courses in homiletics and in advertising have much in common.

As more detailed techniques one sees the countless factors that exert influence. The short story and the novel are obvious but no more important than the textbook, the hymn, the ballad, and the "jazz." The warning of the conservative and the harangue of the radical demagogue each plays a part. All alike affect the

deeper-lying attitudes which may be sensibly viewed as the methods by which social process is determined.¹

There is no attempt in these brief paragraphs to do more than suggest that some of these highly interdependent factors may wisely be viewed as means of creating others. The functional view of determination, however, makes it clear that some of the factors in the complex are deep-lying and continuously significant; others are ephemeral and are significant only as they modify the more basic mechanisms. The interdependence and interaction is perplexing almost to bewilderment.

Important among the factors which influence social determination are the methods which are used in carrying on the various phases of production. Who can reckon the effects upon every part of our social structure of the use of capital as a productive method?² The same question may be asked with equal pertinence regarding specialization, pecuniary apportionment, and private enterprise. "How we do things" at any time reacts profoundly upon the controls which determine how we will do them next.

Change is perhaps as likely to be degenerative as progressive. The functional method of approach proposed promises something in the way of clearer standards for social guidance and better methods of valuation. The first promise is in the fact that it furnishes a way to get before one a specific piece of social machinery in terms of what it does. By seeing that it does anything in carrying on one of the basic functions we may decide that it has value. But the functional approach to economic-social process promises better than this. By proposing the consideration of social process as the performance of a few basic functions we may rate various methods according as they perform those functions. We may secure a comparison of values. This, it would appear, is

¹ Walter Lippmann suggests a part which the universities might play: "Were they in close contact with the current record and analysis, there might well be a genuine 'field work' in political science for the students; and there could be no better directing idea for their advanced researches than the formulation of the intellectual methods by which the experience of government could be brought to usable control."—*Liberty and the News*, p. 95.

² In this connection Samuel Butler's *Erewhon*, especially "The Book of the Machines," is highly interesting.

close to the essence of social science: to secure a method of valuation for social methods. Without such a method all thought of even semi-intelligent control of social evolution is futile. The functional approach promises something as such a technique.

CONCLUSION

The method of the functional approach is to outline social-economic processes in terms of a few "basic" functions and to organize social data as methods of performing these functions.

The function of the functional approach is to furnish a technique which may help: (1) to show the organic significance of social mechanisms; (2) to give a sense of relativity and perspective to social phenomena; (3) to furnish a technique for valuation of social methods.

LEVERETT S. LYON

UNIVERSITY OF CHICAGO

